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02/22/2006

NIKAIDO, MARMELSTEIN, MURRAY & ORAM LLP METROPOLITAN SQUARE 655 15TH ST NW STE 330-G ST LOBBY WASHINGTON, DC 200050501

EXAMINER				
LIPMAN, BERNARD				
ART UNIT	PAPER NUMBER			
1713				
DATE MAILED: 02/22/20	06			

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/885.770	06/30/1997	GIULIO BRINATI	JAP-70453	7819

TITLE OF INVENTION: VDF POLYMERIZATION PROCESS

_ APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$0	\$1400	05/22/2006

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. <u>PROSECUTION ON THE MERITS IS CLOSED</u>. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

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maintenance fee notifications. CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address) Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission. 02/22/2006 Certificate of Mailing or Transmission I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below. NIKAIDO, MARMELSTEIN, MURRAY & ORAM LLP **METROPOLITAN SQUARE** 655 15TH ST NW STE 330-G ST LOBBY WASHINGTON, DC 200050501 (Signature (Date FILING DATE FIRST NAMED INVENTOR ATTORNEY DOCKET NO. APPLICATION NO. CONFIRMATION NO. **GIULIO BRINATI** JAP-70453 06/30/1997 08/885,770 7819 TITLE OF INVENTION: VDF POLYMERIZATION PROCESS APPLN. TYPE SMALL ENTITY **ISSUE FEE PUBLICATION FEE** TOTAL FEE(S) DUE DATE DUE NO \$1400 \$1400 05/22/2006 nonprovisional ART UNIT EXAMINER CLASS-SUBCLASS 1713 LIPMAN, BERNARD 526-209000 Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). 2. For printing on the patent front page, list the names of up to 3 registered patent attorneys ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required. 3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type) PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment. (B) RESIDENCE: (CITY and STATE OR COUNTRY) (A) NAME OF ASSIGNEE ☐ Individual ☐ Corporation or other private group entity ☐ Government Please check the appropriate assignee category or categories (will not be printed on the patent): 4b. Payment of Fee(s): 4a. The following fee(s) are enclosed: ☐ Issue Fee A check in the amount of the fee(s) is enclosed. ☐ Publication Fee (No small entity discount permitted) Payment by credit card. Form PTO-2038 is attached. The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number ______ (enclose an extra copy of this form). Advance Order - # of Copies 5. Change in Entity Status (from status indicated above) a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2). The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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DATE MAILED: 02/22/2006

FILING DATE FIRST NAMED INVENTOR APPLICATION NO. ATTORNEY DOCKET NO. CONFIRMATION NO. 06/30/1997 **GIULIO BRINATI** JAP-70453 08/885,770 7819 **EXAMINER** 02/22/2006 NIKAIDO, MARMELSTEIN, MURRAY & ORAM LLP LIPMAN, BERNARD **METROPOLITAN SQUARE** ART UNIT PAPER NUMBER

NIKAIDO, MARMELSTEIN, MURRAY & ORAM LLI METROPOLITAN SQUARE 655 15TH ST NW STE 330-G ST LOBBY WASHINGTON, DC 200050501

Determination of Patent Term Extension under 35 U.S.C. 154 (b)

(application filed after June 7, 1995 but prior to May 29, 2000)

The Patent Term Extension is 0 day(s). Any patent to issue from the above-identified application will include an indication of the 0 day extension on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Ą	Application No.	Applicant(s)
	08/885,770	BRINATI ET AL.
Notice of Allowability	Examiner	Art Unit
	Pornard Linman	1713
	Bernard Lipman	1/13
The MAILING DATE of this communication apper All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RI of the Office or upon petition by the applicant. See 37 CFR 1.313	(OR REMAINS) CLOSED in this app or other appropriate communication IGHTS. This application is subject to	plication. If not included will be mailed in due course. THIS
1. A This communication is responsive to papers filed 02 Decei	mber 2004 and 14 September 2005.	
2. The allowed claim(s) is/are 1 and 3-14.		
3. ☐ Acknowledgment is made of a claim for foreign priority ura) ☐ All b) ☐ Some* c) ☐ None of the:	nder 35 U.S.C. § 119(a)-(d) or (f).	
1. Certified copies of the priority documents have	e been received.	
Certified copies of the priority documents have		
Copies of the certified copies of the priority do	cuments have been received in this	national stage application from the
. International Bureau (PCT Rule 17.2(a)).		
* Certified copies not received:		
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONN THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.		complying with the requirements
4. A SUBSTITUTE OATH OR DECLARATION must be subm INFORMAL PATENT APPLICATION (PTO-152) which give		
5. CORRECTED DRAWINGS (as "replacement sheets") must		
(a) ☐ including changes required by the Notice of Draftsper	son's Patent Drawing Review (PTO	-948) attached
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(b) ☐ including changes required by the attached Examiner Paper No./Mail Date		
Identifying indicia such as the application number (see 37 CFR teach sheet. Replacement sheet(s) should be labeled as such in		
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Attachment(s)		
1. Notice of References Cited (PTO-892)		Patent Application (PTO-152)
2. Notice of Draftperson's Patent Drawing Review (PTO-948)	6. ☐ Interview Summan Paper No./Mail Da	
3. Information Disclosure Statements (PTO-1449 or PTO/SB/ Paper No./Mail Date		Iment/Comment
4. Examiner's Comment Regarding Requirement for Deposit	8. 💹 Examiner's Statem	ent of Reasons for Allowance
of Biological Material	9.	

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard J. Berman, Esq. on 10 February 2006.

The application has been amended as follows: The Claims are to read as follows:

- 1. (Previously Amended) VDF polymerization process, optionally modified with small amounts, generally comprised between 0.1 and 10% by moles, of one or more fluorocontaining comonomers, for preparing VDF polymers showing improved levels of white index, carried out in the presence of a microemulsion comprising a (per)fluoropolyether having neutral end groups, or microemulsions of fluoropolyoxyalkylenes having hydrogen containing end groups and/or hydrogen-containing repeating units, or microemulsions of fluoropolyoxyalkylenes having hydrogen-containing end groups and/or hydrogen-containing repeating units and hydrocarbons C₁-C₂₀, of aliphatic, aromatic or mixed type, optionally containing halogens, said fluoropolyethers having number average molecular weight from 400 to 3000, and a surfactant based on perfluoropolyethers with a sodium carboxylate end group, said surfactant having a number molecular weight Mn comprised between 400-600, and having a distribution of molecular weight such that fractions having a number average molecular weight greater than 700 are not present or are present in amount of less than 5% by weight.
- 2. (Cancelled)
- 3. (Previously Amended) VDF polymerization process according to claim 1, wherein a microemulsion comprising a perfluoropolyether with neutral end groups is utilized.

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- 4. (Previously Amended) VDF polymerization process according to claim 1, wherein chlorotrifluoroethylene (CTFE), hexafluoropropene (HFP), tetrafluoroethylene (TFE) are utilized as comonomers.
- 5. (Previously Presented) VDF polymerization process according to claim 4, wherein the amount of modifying comonomer is comprised between 0.5-6% by moles.
- 6. (Previously Amended) VDF polymerization process according to claim 1, wherein the perfluoropolyethers with neutral end groups, optionally the end groups containing an hydrogen atom, utilized for preparing the microemulsions, comprise as repeating units sequences of one or more oxyfluoroalkylenic units such as -CF₂(CF₂)_zO-, wherein z is an integer equal to 1, 2 or 3, -CR₄R₅CF₂CF₂O- wherein R₄ and R₅ equal to or different from each other are chosen from H, Cl or perfluoroalkyl from 1 to 4 carbon atoms, -CF₂CF(CF-₃)O-, -CFYO-, wherein Y is equal to F or CF₃.
- 7. (Previously Presented) VDF polymerization process according to claim 6, wherein the perfluoropolyethers have number average molecular weight comprised between 400 and 3000.
- 8. (Previously Amended) VDF polymerization process according to claims 6, wherein the perfluoropolyethers comprise as repeating units sequences of the classes:
 - a) (C₃F₆O)_{m'}(CFYO)_{n'} wherein the unit (C₃F₆O) and (CFYO) are perfluorooxyalkylenic units statistically distributed along the chain; m' and n' are integers such as to give the molecular weight indicated above, and m'/n' is comprised between 5 and 40, when n' is different from 0; Y is equal to F or CF₃; n' can be also 0; said units inside the fluoropolyoxyalkylenic chain can optionally be bound among each other by a bond -O-R'_FO-, wherein R'_f has the meaning defined in c);
 - b) (C₂F₄O)_{p'}(CFYO)_{q'}- (C₃F₆O)_{t'}
 wherein p' and q' are integers such that p'/q' ranges between 5 and 0.3,
 preferably 2.7-0.5, and such that the molecular weight is the one indicated
 above; t' being an integer with the meaning of m', Y = F or CF₃; t' can be 0
 and q'/q'+p'+t' lower than or equal to 1/10 and the t'/p' ratio is from 0.2 to 6;

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c) CR₄R₅CF₂CF₂O wherein R₄ and R₅ are equal to or different from each other and chosen from H, CI or perfluoroalkyl, for instance having 1-4 C atoms, the molecular weight being that indicated above, said units inside the fluoropolyoxyalkylenic chain being bound to each other as follows:

$$(OCR_4R_5CF_2CF_2)_p - O - R'_{t-}O - (CR_4R_5CF_2CF_2O)_q$$

wherein R'_f is a fluoroalkylenic group, for instance from 1 to 4 C, p and q are integers from 0 to 200, and p+q is at least 1 and such that the molecular weight is that indicated above,

d) CF(CF₃)CF₂O

said units being linked each other inside the fluoropolyoxyalkylenic chain as follows:

$$(OCF_2CF(CF_3))_aO-CF_2(R'_f)_xCF_2-O-(CF(CF_3)CF_2O)_b$$

wherein R'_f has the meaning indicated above, x is 0 or 1, a and b are integers and a+b is at least 1 and such that the molecular weight is that indicated above,

e) $(C_2F_4O)_{a'}(CFYO)_{b'}$

wherein a' and b' are integers such that the molecular weight is inside the indicated range, a'/b' ranges between 5 and 0.3, preferably between 2.7-0.5, Y has the meaning indicated above.

9. (Previously Amended) VDF polymerization process according to claim 1, wherein the neutral end groups of the perfluoropolyethers are perfluoroalkyls from 1 to 3 carbon atoms,

CICF₂CF(CF₃)-, CF₃CFCICF₂-, CICF₂CF₂-, CICF₂-, in the case of microemulsions of fluoropolyoxyalkylenes having hydrogen-containing end groups, these are of the -CF₂H, -CF₂CF₂H, -CFH-CF₃ type.

- 10. (Previously Amended) VDF polymerization process according to claim 1, wherein the perfluoropolyethere surfactants have the same repeating units indicated for perfluoropolyethers.
- 11. (Previously Amended) VDF polymerization process according to claim 1, wherein the perfluoropolyethers have the following general formula:

$$R_fO$$
 (CF₂ - CF (CF₃) O)_{m'} (CFYO) _{n'} R"_f

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having a random distribution of the perfluorooxyalkylenic units, wherein R_f and R_f equal to or different from each other are neutral end groups as defined above, m' and n' are integers such as to meet the above requirements of molecular weight, Y has the meaning indicated above; the surfactant based on perfluoropolyether has the following formula:

 R_f -O- (CF₂CF(CF₃) -O) m' - (CFY-0)n, -CF₂COONa wherein R_f , m' n' and Y have the above meaning indicated.

- 12. (Previously Amended) VDF homopolymers or VDF copolymers modified with amounts comprised between 0.1-10% by moles of one or more fluoro-containing comonomers according to claim 1.
- 13. (Previously Presented) VDF polymerization process according to claim 1, wherein the surfactant based on perfluoropolyethers has the following formula

 R_f -O(CF₂CF(CF₃)-O)_{m'}-(CFY-O)_{n'}-CF₂COONa wherein R_f is a C1 to C3 perfluoroalkyl group, CICF₂CF(CF₃)-, CF₃CFCICF₂-, CICF₂CF₂, CICF₂-; Y=-F, CF₃; m' and n' are integers meeting the requirements of the number average molecular weight recited in claim 1.

14. (Previously Presented) The VDF polymerization process according to claim 1 wherein said surfactant has a number average molecular weight Mn comprised between 400-550.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Lipman whose telephone number is 571-272-1105. The examiner can normally be reached on 8-5 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

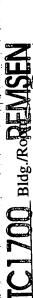
Application/Control Number: 08/885,770

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Bernard Lipman Primary Examiner Art Unit 1713

BL/hs



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